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IN THE UNITED STATE PATENT AND TRADEMARK OFFICE

Applicant: Hideaki TOJO et al.

Serial No.: 08/627,270 ✓

US Filing Date: 04/04/96

Group Art Unit: 3726

Examiner: Echols, P.

Title: "METHOD AND MACHINE FOR FORMING PROTECTIVE FILM ON
SPRAYED COATING OF LARGE-SIZED PRODUCT"

part of #31

DECLARATION UNDER 37 C.F.R. 1.132

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

I, Hisashi Kurota, a citizen of Japan, hereby declare and state:

1. I am a graduate of Nagai Technical High School in March 1975.

2. I have been employed by Honda Giken Kogyo Kabushiki Kaisha since 1975 and I have had a total of 25 years of work and research experience in Painting and Coating of Automobiles including Quality Control, Performance Test and Development of Painting and Coating Materials.

3. I have been engaged in research and development of a Method of Forming a Protective Film on Automobiles since 1992.

4. I had been a coordinator of the Surface Treatment Section of Honda's inter-office Industrial Engineering Committee for 2 years.

5. I am one of the co-inventors of the subject matter claimed in U.S. Serial No.08/627,270, filed April 4, 1996, and familiar with the contents of that application which claims a vehicle

manufacturing method involving formation of a protective film on a paint-finished automobile using a strippable paint, and particularly to such a method involving an automobile assembly process for thereby eliminating the need for certain steps of a conventional automobile assembly process, and familiar with the contents of the Office Action dated August 29, 2001 issued in said application.

6. For comparative purposes, the vehicle manufacturing method of the present invention involving formation of a protective film on a paint-finished automobile using a strippable paint and a conventional automobile assembling process using reusable anti-scratch covers are schematically illustrated in Exhibit A.

7. It is clear from Exhibit A that the vehicle manufacturing method of the present invention involving formation of a protective film on a paint-finished automobile using a strippable paint is advantageous over the conventional automobile assembly process using reusable anti-scratch covers, as enumerated below:

a) Reduced number of operator required. The conventional process requires a total of five (5) operators, as shown in Exhibit A, which include two operators each engaged in the attachment of anti-scratch covers on the left or the right of the vehicle, two operators each engaged in the detachment of anti-scratch covers on the left or the right side of the vehicle, and one operator engaged in the transportation of anti-scratch covers. The attachment and detachment and transportation of covers are full-manual operations. These manual operations can be automated in a theoretical sense. However, such automation is practically impossible because an apparatus which is capable of attaching and detaching anti-scratch covers without damaging the paint-finished surface of the automobile

cannot be realized with reasonable cost. The inventive process apparently requires a total of five (5) operators, which include two operators each engaged in the coating of front fender and door on the left or the right side of the vehicle body, two operators each engaged in the coating of rear door and fender on the left and right side of the vehicle body, and one operator engaged in the coating of front and rear bumpers. However, by using an automated coating and drying apparatus, the number of required operators can be reduced to zero. In an automobile manufacturing line already including a liquid wrapping film coating process in preparation for shipment, such automated coating and drying apparatus can be easily realized with slight modification of the existing apparatus provided for achieving the liquid wrapping film coating process.

b) No space required for storage of the anti-scratch covers. The anti-scratch covers occupy 67.36 m^2 (actual measurements) in each assembling line (fender and door covers: 23.56 m^2 (19.4 m^2 on the attachment side and 4.16 m^2 on the detachment side), and bumper covers: 43.80 m^2 (23.40 m^2 on the attachment side and 20.40 m^2 on the detachment side)).

c) Transportation of the anti-scratch covers from detachment site to attachment site can be eliminated. The anti-scratch covers, as they are returned from the detachment site to the attachment site, travel a distance more than 650 m.

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d) Molding dies required for forming anti-scratch covers for each model of automobile can be eliminated. Anti-scratch covers are tailored to a specific configuration of each model of automobile and hence require special molding dies for formation thereof. The molding dies are expensive and increase the overall

manufacturing cost of the automobile.

e) Paint-finished surface is kept free from scratch which may occur when the anti-scratch covers are used with dust and debris adhering to the inside surfaces thereof.

f) Visual observation of configuration and painted color of automobile enabled.

The anti-scratch covers attached to the automobile prevent the operators from checking the configuration (including projections and recesses) and paint color of the automobile.

g) Bumpers acquire anti-scratch function before assembly.

I hereby declare that all statements made herein on my own knowledge are true, and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Hisashi Kurota

Hisashi Kurota

JAN 28, 2002

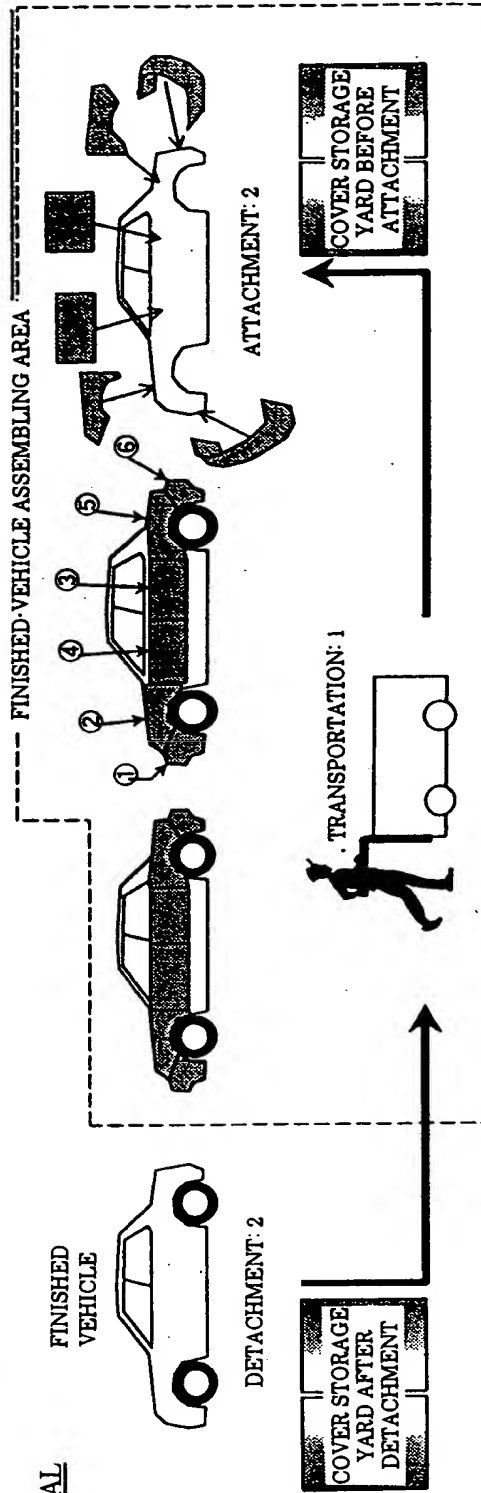
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EXHIBIT A

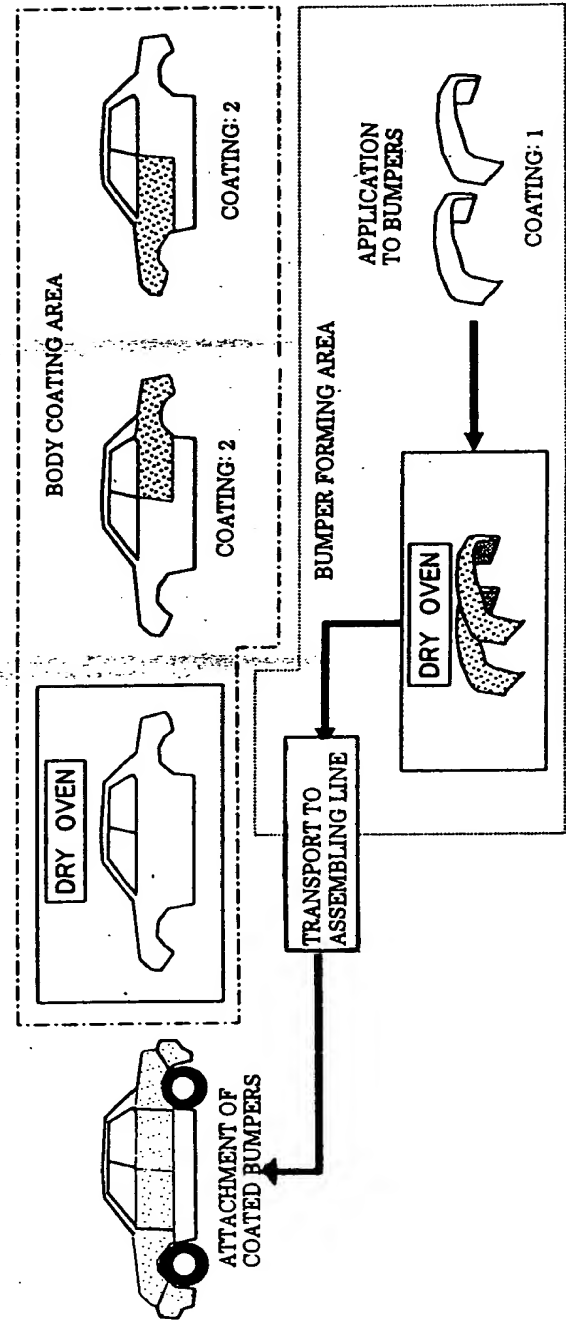
COMPARISON BETWEEN INVENTIVE VEHICLE MANUFACTURING METHOD INVOLVING FORMATION
 OF PROTECTIVE FILM ON PAINT-FINISHED AUTOMOBILE USING STRIPPABLE PAINT AND
 CONVENTIONAL AUTOMOBILE ASSEMBLING PROCESS USING REUSABLE ANTI-SCRATCH COVERS

CONVENTIONAL PROCESS



- ① FRONT BUMPER COVER
- ② FRONT FENDER COVER
- ③ FRONT DOOR COVER
- ④ REAR DOOR COVER
- ⑤ REAR FENDER COVER
- ⑥ REAR BUMPER COVER

INVENTIVE PROCESS



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